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# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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December 13, 2011

TO: Internal File

THRU: April Abate, Lead *ACA 12-22-2011*

FROM: Ingrid Campbell, Environmental Scientist *IC by SAS*

RE: South Fork Quitchupah 2R2S, Canyon Fuel Company, SUFCO Mine, Permit # C/041/0002 and Project #3950

### SUMMARY:

On November 4, 2011, the Division received an application from Canyon Fuel Company (CFC) to amend the current SUFCO mine monitoring and mitigation plan for undermining the South Fork of the Quitchupah stream channel. CFC requested that the Division expedite the review in order to mine the area by December 30, 2011. The application includes proposed amendments to Chapters 4, 5, 7 and the confidential binder as well as plates 5-10AC, 5-10A and C.

This application is not recommended for approval at this time. Prior to final approval, the permittee must submit the following in accordance with:

**R645-300-113 and R645-301-333:** The Fish and Wildlife Service should be consulted on the undermining of the South Fork of the Quitchupah. The permittee should address the requirements of the Fish and Wildlife Service's Colorado Fish Recovery Program.

**R645-301-321:** Please provide a monitoring plan for the riparian vegetation along the South Fork of Quitchupah creek that could be impacted from mining through loss of water or subsidence cracks.

**R645-301-322.210:** Please provide an updated list and investigation of effect of mining on listed or proposed endangered or threatened species of plants or animals or their critical habitats listed by the Secretary under the Endangered Species Act of 1973 and species or habitats protected by similar states statutes.

**R645-301-322.220, -333,-358, and 358.400:** Please provide a commitment to provide alternate sources of water for wildlife via “development of springs, wells or guzzlers at strategic locations”, as suggested by the Smith and Pritchett Report in Appendix 3-3 and page 3-40 of the MRP, in the case that water is lost due to undermining the South Fork of Quitcupah Creek. This commitment would have to be implemented immediately upon discovery of water loss, which may be prior to long term plans of water restoration development approval.

**R645-301-322:** Please provide a monitoring plan for aquatic wildlife prior to undermining to assess potential degradation impacts as suggested in the Smith and Pritchett Report Appendix 3-3 page 45.

**R645-301-358:** Annual raptor surveys must be conducted over areas that mining could disturb nests or nesting raptors including subsidence areas and surface disturbance areas. The survey conducted in 2011 does not include areas over projected mine panels. The 2012 annual raptor survey must include areas over projected panels for the 2012 mining year.

**R645-301-411:** A monitoring and mitigation plan must be developed for the protection of site 42SV3464 as suggested by the Canyon Environmental Report No. 110122. The plan must be developed prior to undermining the South Fork of Quitcupah Creek and prepared in consultation with the US Forest Service, the Division and the State Historic Preservation Office. The MOU in appendix 4-5 does not currently include this site.

**TECHNICAL ANALYSIS:**

## **ENVIRONMENTAL RESOURCE INFORMATION**

Regulatory Reference: Pub. L 95-87 Sections 507(b), 508(a), and 516(b); 30 CFR 783., et. al.

## **HISTORIC AND ARCHEOLOGICAL RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.12; R645-301-411.

**Analysis:**

CFC made changes to the SUFCO MRP, Chapter 4 page 4-12 to include a summary of the cultural and historic information for the South Fork of the Quitchupah Area. The summary indicates that two sites are recommended eligible for the National Register of Historic Places. There is a brief description of the shelter that may be impacted from undermining.

The actual report is located in the amendment for incorporation into Appendix 4-2 of the confidential folder of the MRP. The report is titled, "Cultural Resource Inventory of the Proposed Quitchupah Plateau Mine Expansion Sections 6 and 7, T37S R16E, SLB&M, Sevier County, Utah" Report No. 110122. Christopher T. Jensen of Canyon Environmental prepared the report on August 22, 2011 with Public Lands Policy Coordination Office Permit Number 177 and State of Utah Antiquities Project Permit Number U-11-YN-0695f.

The report included a class I file search in June at the State of Utah Historic Preservation Office. Three cultural resource sites were identified within a .5 mile radius of the proposed project site. One site, 42SV2690 was identified in the project area.

The report also included a class III cultural resource survey conducted on June 13-14, 2011 in Section 24 of T21S R4E of 160 acres of land in the Fishlake National Forest. The survey was conducted using parallel transects spaced no more than 10 m apart. Mr. Jensen identified one previously recorded cultural resource site (42SV2690), and three new sites (42SV3462, 42SV3463, and 42SV3464) within the survey area. Sites 42SV2690 and 42SV3464 were recommended as eligible for listing in the National Register of Historic Places.

Mr. Jensen determined that undermining site 42SV2690, a large lithic scatter, will not impact the site. However, site 42SV3464, a rock shelter and associated lithic scatter, could be impacted

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from undermining. Therefore, the following recommendations were included in order to mitigate the potential adverse effects:

- Long term, periodic monitoring of subsidence activities in the immediate area that is proposed to be undermined;
- Direct, periodic monitoring of the shelter and documentation of subsidence activities as they may or may not affect the site;
- The development of a treatment and mitigation plan to determine possible future steps in the event that subsidence is found to cause structural damage or failure of the shelter.

The application does not include a monitoring and mitigation plan as suggested above by Canyon Environmental. Prior to approval of undermining, CFC must develop and submit a plan to the Division.

In addition to the above mitigation recommendations for site 42SV3464, Canyon Environmental recommended that further precautions be taken by CFC to minimize potential damage to cultural resources. These recommendations include the following:

- The operator and its contractors inform their employees about Federal regulations intended to protect cultural resources. All personnel would be informed that collecting artifacts, including arrowheads, is a violation of Federal Law.
- If cultural resources are uncovered during surface-disturbing activities, the operator and its contractors would suspend all operations at the site and the discovery would be immediately reported to the Authorized Officer, who would arrange for a determination of significance in consultation with the USHPO, and if necessary, recommends recovery and avoidance plan.
- All vehicular traffic, personnel and equipment movement, and construction activities should be confined to the locations surveyed for cultural resources as referenced in this report, and to the existing roadways and/or inventoried access routes.

An MOU between the USDA-Manti-LaSal National Forest, the Utah State Historic Preservation Officer, Canyon Fuel Company and the Division regarding the cultural resources protection and consultation at the SUFCO mine is located in Appendix 4-5, Volume 6. This MOU states that the Forest Service will be the lead agency to contact and coordinate between the Division, tribes and SHPO. The FS is also responsible to assure that all evaluation and monitoring of subsidence effects will follow the process outlined in the MOU. Attachment B of this report is a list of sites to be monitored. Site 42SV3464 is not listed on the attachment. The US Forest Service, Fishlake National Forest Office submitted comments to the Division on December 7, 2011. The FS indicated that the permittee must immediately develop a protection and monitoring plan that must be approved by SHPO prior to undermining.

**Findings:**

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The information provided in this application is not considered adequate to meet the minimum regulatory requirements for this section. Prior to approval, the Permittee must submit the following in accordance with:

**R645-301-411:** A monitoring and mitigation plan must be developed for the protection of site 42SV3464 as suggested by the Canyon Environmental Report No. 110122. The plan must be developed prior to undermining the South Fork of Quitchupah Creek and prepared in consultation with the US Forest Service, the Division and the State Historic Preservation Office. The MOU in appendix 4-5 does not currently include this site.

## VEGETATION RESOURCE INFORMATION

Regulatory Reference: 30 CFR 783.19; R645-301-320.

### Analysis:

CFC did not submit any new information pertaining to vegetation with the amendment. Plate 3-1v8, Plant Communities and Sampling Area, is included in the Plates Volume I of the MRP. According to this map, the South Fork Quitchupah Creek area includes Douglas Fir-Spruce-limber Pine, Pinyon-Juniper- Mountain Mahogany, and sagebrush-grass plant communities. No sampling areas were located near the South Fork Quitchupah.

The Aquatic Resource Report (Appendix 3-3) prepared by Dr. Richard Wingett, includes a resource description of South Fork Quitchupah Creek (table 7, page 27) conducted in 1980. The table describes the South Fork Quitchupah Creek's, left and right bank vegetative cover, stability, class, gradient, ungulate damage and riparian zone length. This provides a baseline inventory of the stream's riparian vegetation. CFC did not provide an update to this data which may be dated.

Undermining should have a minimal impact to vegetation (See Smith and Pritchett Report in Appendix 3-3, 1980).

The Fishlake and Manti La Sal National Forest provided comments on this application to the Division on December 7, 2011. The FS indicated that, "The Forest Land and Resource Management Plan (LRMP) designates use in the area for emphasis on livestock grazing and management indicator species habitat. Protection of riparian habitat is also a priority. In order to adequately protect the riparian habitat, a monitoring plan must be established to insure that mining does not negatively impact the vegetation.

### Findings:

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The information provided is not considered adequate to meet the minimum regulatory requirements for this section. Prior to approval, the Permittee must submit the following in accordance with:

**R645-301-321:** Please provide a monitoring plan for the riparian vegetation along the South Fork of Quitchupah creek that could be impacted from mining through loss of water or subsidence cracks.

## **OPERATION PLAN**

### **FISH AND WILDLIFE INFORMATION**

Regulatory Reference: 30 CFR Sec. 784.21, 817.97; R645-301-322, -301-333, -301-342, -301-358.

#### **Analysis:**

##### **Protection and Enhancement Plan**

CFC did not submit any new information pertaining to fish and wildlife with the amendment.

A wildlife assessment was conducted in 1980 by H. Duane Smith and Clyde Pritchett. The assessment is located in Appendix 3-3 of Volume 5 of the MRP. The area of study, shown on Figure 1 of the report, includes the south fork of Quitchupah Creek. The amendment area is near elk calving grounds and located in elk winter range and big game migration routes. Page 43 of the report explains possible impacts from subsidence to wildlife. The long-wall and room and pillar mining techniques proposed in 1980 would minimize surface impacts and impacts to wildlife. Undermining this area should not have an impact on big game; however, if water loss occurs due to undermining, big game could be impacted. CFC included a subsidence monitoring and mitigation plan in this amendment. Page 5-39E of the amended MRP pages states, "if mitigation measures by SUFCO personnel and their consultants and contractors, are not successful in restoring flows after two spring runoff periods, Sufco will initiate additional analysis and planning with the Forest Service. Wildlife could be greatly impacted by the loss of water in this area for two years. Therefore, CFC must plan an alternate source of water for wildlife during their plans to replace water.

The report also suggests, on page 56, that water is the most limiting resource, and it would be advantageous of the mining company to install additional permanent water via development of springs, wells or guzzlers at strategic locations within the lease area.

Robert N. Winget of Environmental consultants conducted Aquatic macroinvertebrate surveys of Quitchupah Creek in 1980-1982. The results indicated a stressed condition due to low water flows, sedimentation and poor water quality but noticeably improved by 1982. Winget summarized the condition of the stream as having marginal quality for both habitat and water quality due to highly variable flows, chronic grazing and naturally alkaline waters. Winget concluded that the stream was not suitable for developing fisheries. On page 16 of this report, Winget states that possible project impacts are mainly subsidence related and entail a reduction of stream flows. He reiterated that the stream section has no fisheries value but is important as a watering source for wildlife and domestic animals and a source of aquatic organisms for downstream North Fork Quitchupah Creek.

Page 45 of the Smith and Pritchett report states that, "prior to and as mining progresses these aquatic and aquatic dependent resources should be monitored to assess potential degradation impacts....surface water equivalents should be permanently provided to maintain the integrity of any areas and populations so impacted".

Plates Volume I of the MRP includes Plate 3-2v6, "Elk Range", last incorporated on February 1, 2011. According to this plate, the south fork Quitchupah area includes limited priority Elk winter range, and some adjacent Critical Elk Calving areas.

### **Endangered and Threatened Species**

A list of Endangered and Threatened species is located in the MRP volume 1, Chapter 3, Environmental Description, page 3-15. This list is from January 2005 and is currently outdated. It does not explain whether the species on the list can be found in the permit area. A disclaimer on page 3-14 A states that an explanation of endangered and threatened species on certain parts of the permit area can be found in the appendices section of Chapter 3. None of these appendices address the Quitchupah lease specifically.

The original addition of the Quitchupah lease in the 1980's was approved under the assumption that the south fork of Quitchupah creek would not be undermined. A barrier panel was to be left in place. Therefore, the original analysis and consultation with the Fish and Wildlife Service did not cover this scenario. The Fish and Wildlife Service should be consulted on the undermining of the South Fork of the Quitchupah. The permittee should address the requirements of the Fish and Wildlife Service's Colorado Fish Recovery Program.

The Fishlake National Forest has a Threatened and Endangered Species plan on page II-33 within the forest plan found online at:

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[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5115591.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5115591.pdf). The plan lists threatened, endangered and sensitive species (although outdated) that could be found in the forest as the following: Bald Eagle, peregrine falcon, utah prairie dog, northern flying squirrel, merlin, mountain bluebird, western bluebird, bonnevillie cutthroat trout, and Utah mountain kingsnake. Some of these species can be found to nest in or inhabit parts of the forest, but exact locations are not outlined. The plan also identifies threatened, endangered and sensitive plant species in the Tushar and Monroe mountains.

### **Bald and Golden Eagles**

An Avian and special status species inventory for the proposed 2011 Utah coal Properties exploration area was submitted to the Division in July of 2011 as part of task 3878, NOI for minor coal exploration. The inventory was conducted by Craig Brown of Tetratex on June 24, 2011. The inventory included northern goshawks, nesting raptors, and special status species as well as incidental flora and fauna observations of management indicator species (elk calving and mule deer fawning) within the Fishlake National Forest. No map accompanies the report. The south fork of Quitcupah area in this amendment is located in Section 24 of T21S R4E. The survey covers sections 9 and 17 of T22S R4E, which is quite a distance away from the area this amendment addresses.

According to the 2011 raptor survey data, two red-tailed hawk nests are located near the South Fork of Quitcupah creek but not directly over the projected panels. The nests were last surveyed in 2008 and were found to be inactive or not found. The area has not been surveyed since 2008.

Page 3-9 of the MRP states that an environmental assessment of the Quitcupah Lease area was performed by the FS and BLM and 6 golden eagle nests were located.

### **Wetlands and Habitats of Unusually High Value for Fish and Wildlife**

The application does not include a discussion of the impacts of undermining on the riparian area of the South Fork of Quitcupah Creek, a habitat of high value for fish and wildlife. Similar areas within the permit area that were undermined, including the East Fork of Box Canyon, have extensive discussion on the impacts and mitigation efforts from undermining in Chapter 3 of the MRP.

### **Findings:**

The information provided is not considered adequate to meet the minimum regulatory requirements of this section. Prior to approval, the permittee must provide the following in accordance with:



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## POSTMINING LAND USES

Regulatory Reference: 30 CFR Sec. 784.15, 784.200, 785.16, 817.133; R645-301-412, -301-413, -301-414, -302-270, -302-271, -302-272, -302-273, -302-274, -302-275.

### Analysis:

The south fork of Quitchupah Creek is located in the Fishlake National Forest and is subject to the Land and Resource Management Plan prepared by the FS. The plan can be accessed online at : [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5115591.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5115591.pdf). According to the plan, the main forest uses are Recreation, and Fish and Wildlife, timber, mineral extraction and grazing.

Two categories of Management Indicator Species (MIS) groups have been identified in the Fishlake National Forest for viable population maintainance, Ecological Indicators and High Interest indicators. The ecological indicator species group includes goshawk, cavity nesters,

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riparian dependent guild, sage nesters, macroinvertebrates and resident trout. The high interest species group includes elk, mule deer, Bonneville cutthroat trout and Rydberg's milkvetch. The purpose for protection of these two categories is to ensure high habitat quality and protection for all forest species. Habitat for the listed species is generally similar to habitat for other forest species.

The FS provided the Division with comments on December 7, 2011. In their comments, the FS indicated that they designated the area in question for use as grazing and management indicator species habitat. They also emphasized that protection of the riparian habitat was important.

**Findings:**

The information provided is considered adequate to meet the minimum regulatory requirements for this section.

**RECOMMENDATIONS:**

This application is not recommended for approval at this time.